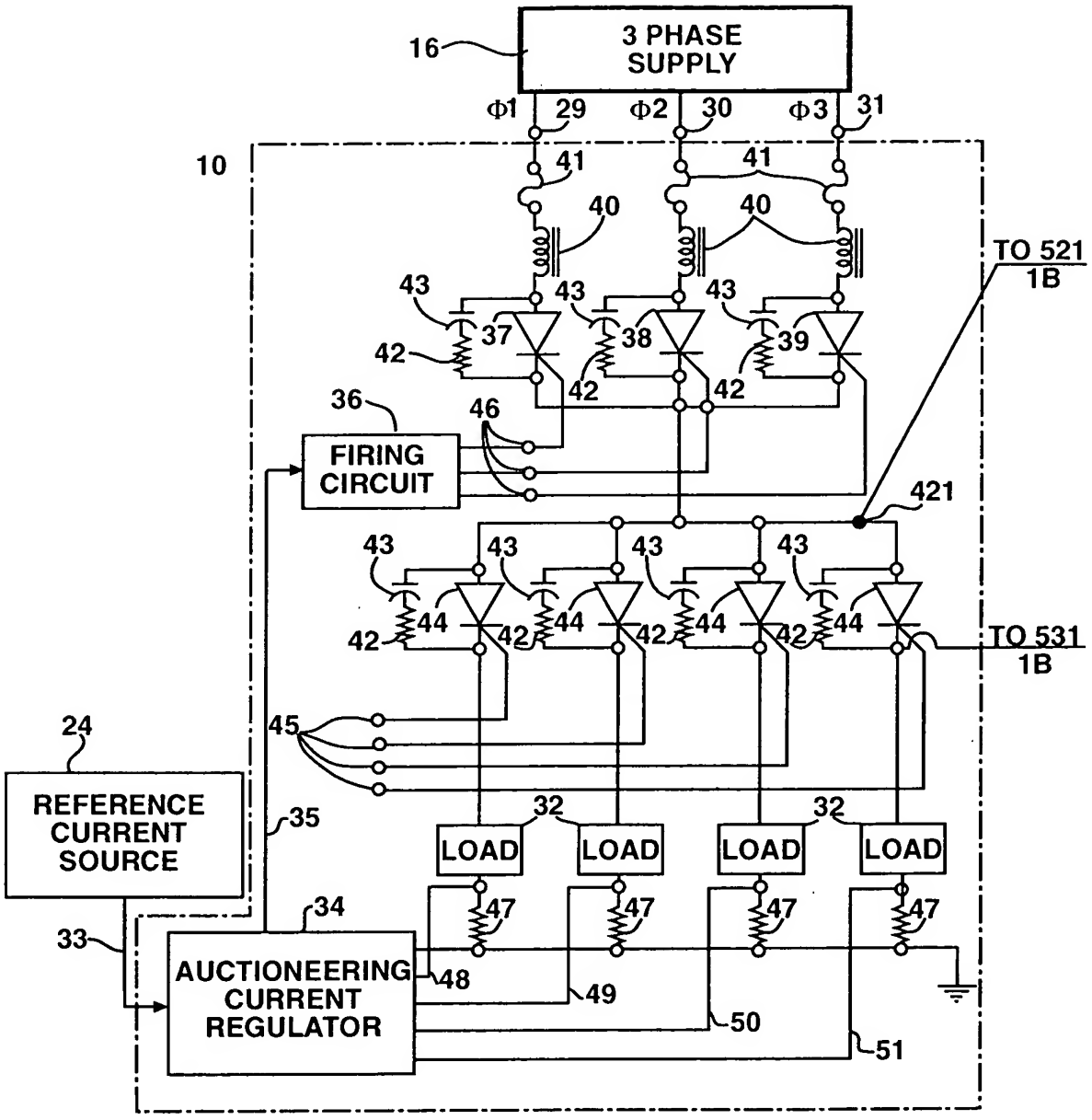
16
3 PHASE SUPPLY
Φ1
29
Φ2
30
Φ3
31
10
41
40
43
37
38
39
42
36
46
FIRING CIRCUIT
TO 521 1B
421
44
TO 531 1B
24
45
REFERENCE CURRENT SOURCE
35
32
LOAD
47
34
33
AUCTIONEERING CURRENT REGULATOR
48
49
50
51

FIG. 1A

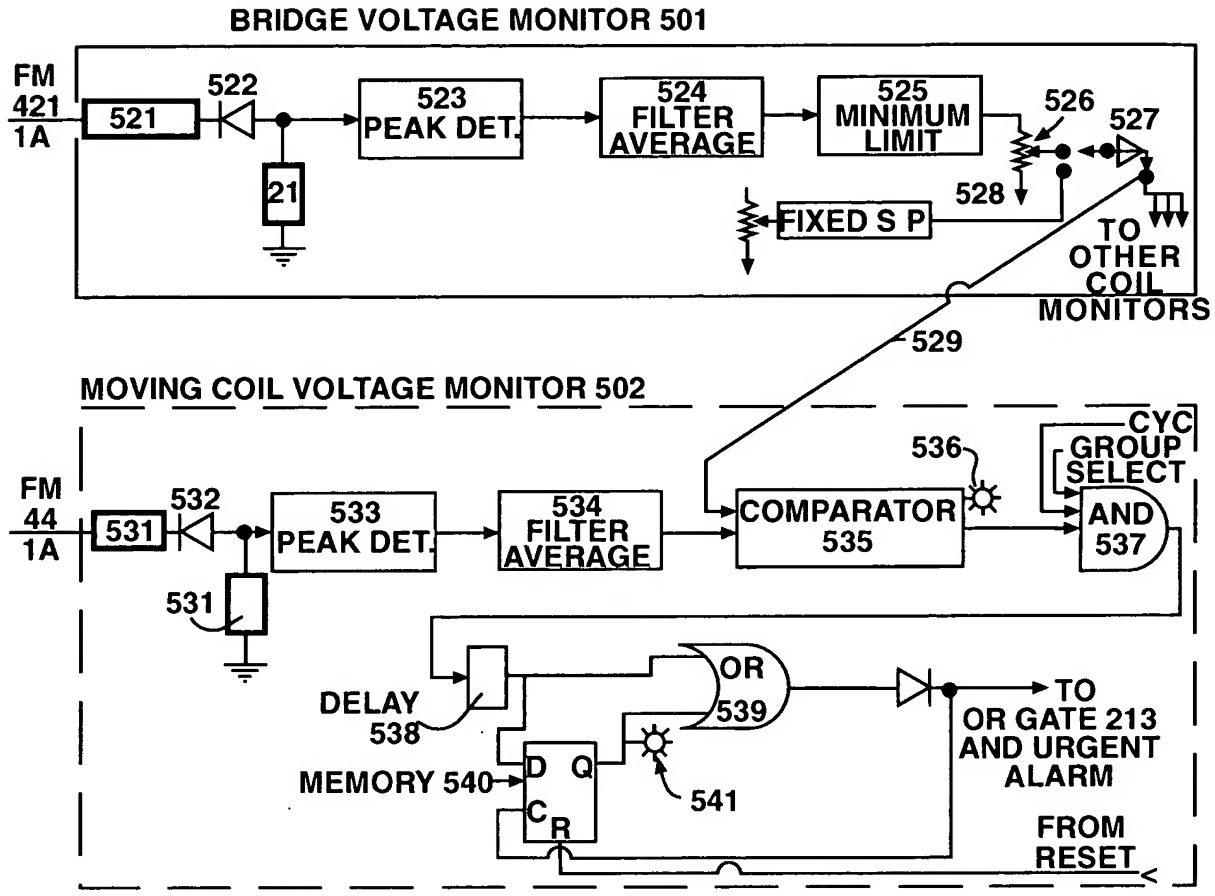
BRIDGE VOLTAGE MONITOR 501
FM
421
1A
521
522
21
523
PEAK DET.
524
FILTER
AVERAGE
525
MINIMUM
LIMIT
526
527
528
FIXED S P
TO
OTHER
COIL
MONITORS
529
MOVING COIL VOLTAGE MONITOR 502
FM
44
1A
531
532
531
533
PEAK DET.
534
FILTER
AVERAGE
COMPARATOR
535
536
CYC
GROUP
SELECT
AND
537
DELAY
538
OR
539
MEMORY 540
D
Q
C
R
541
TO
OR GATE 213
AND URGENT
ALARM
FROM
RESET

FIG. 1B

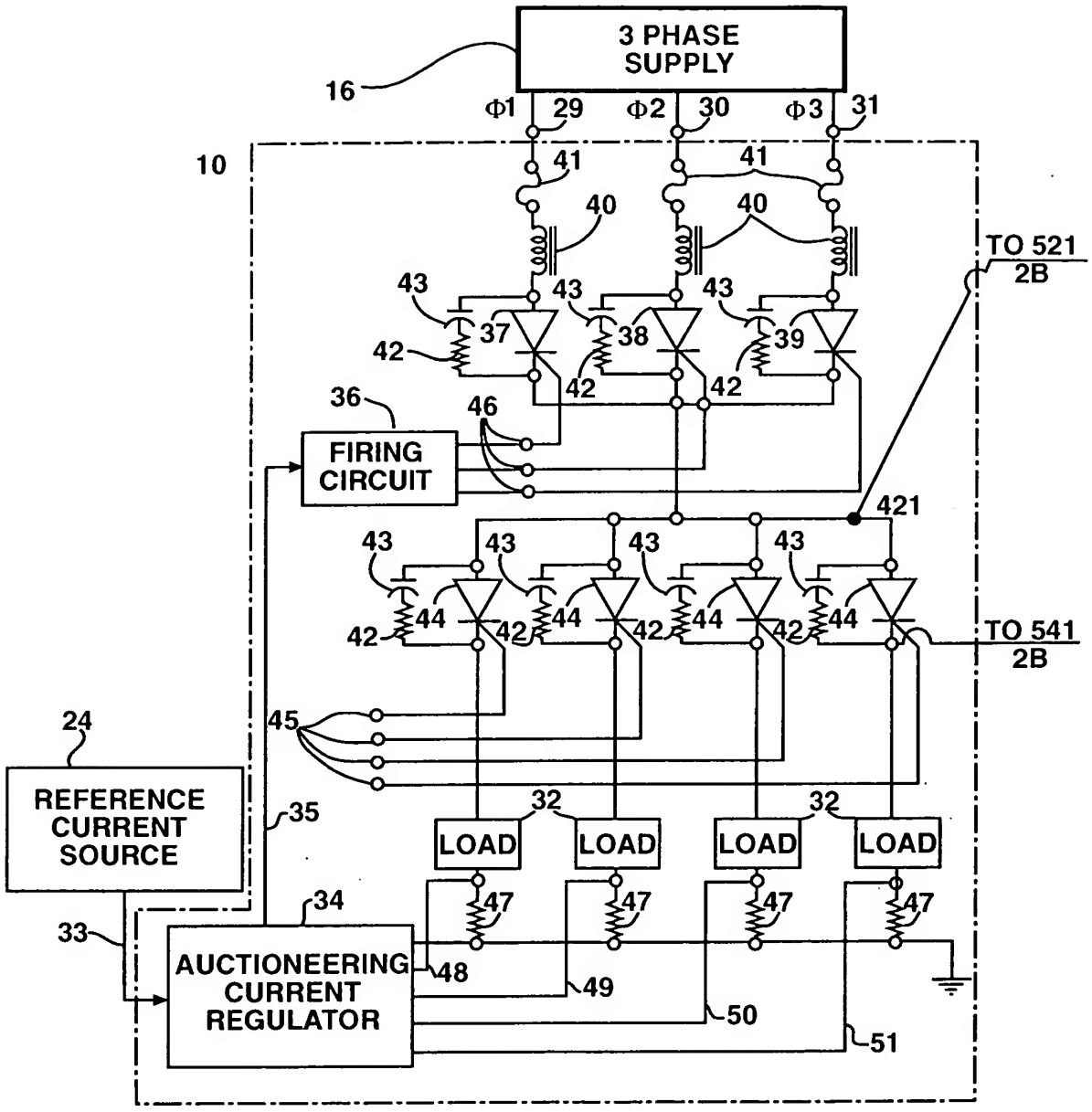
3 PHASE SUPPLY
16
Φ1
29
Φ2
30
Φ3
31
10
41
40
43
37
38
39
42
36
46
FIRING CIRCUIT
TO 521 2B
421
44
TO 541 2B
24
45
REFERENCE CURRENT SOURCE
35
32
LOAD
47
34
33
AUCTIONEERING CURRENT REGULATOR
48
49
50
51

FIG. 2A

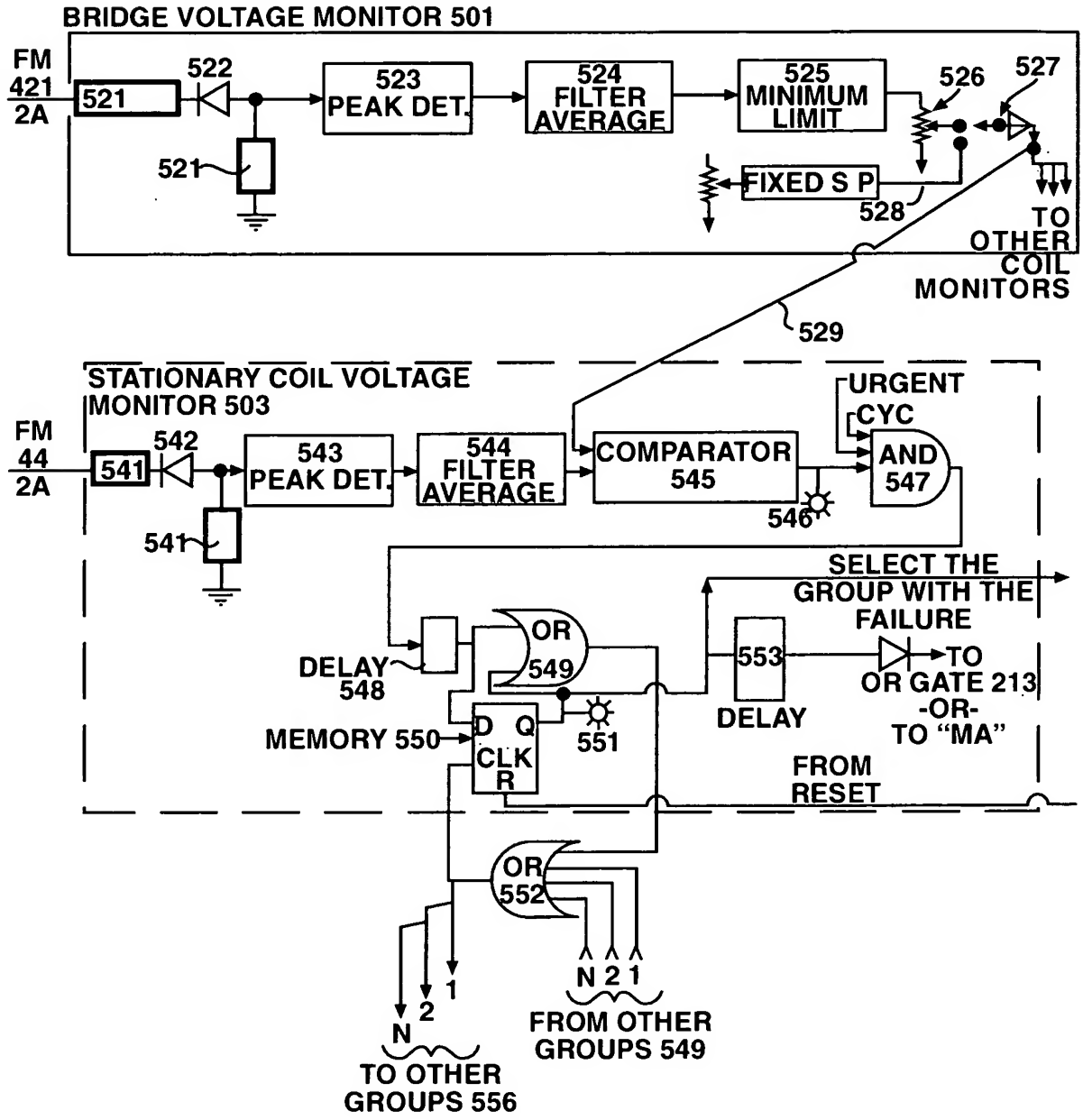
BRIDGE VOLTAGE MONITOR 501
FM
421
2A
521
522
521
523
PEAK DET.
524
FILTER
AVERAGE
525
MINIMUM
LIMIT
526
527
FIXED S P
528
TO
OTHER
COIL
MONITORS
529
STATIONARY COIL VOLTAGE
MONITOR 503
FM
44
2A
541
542
541
543
PEAK DET.
544
FILTER
AVERAGE
COMPARATOR
545
546
URGENT
CYC
AND
547
SELECT THE
GROUP WITH THE
FAILURE
DELAY
548
OR
549
MEMORY 550
D Q
CLK
R
551
553
DELAY
TO
OR GATE 213
-OR-
TO "MA"
FROM
RESET
OR
552
N 2 1
FROM OTHER
GROUPS 549
1
2
N
TO OTHER
GROUPS 556

FIG. 2B

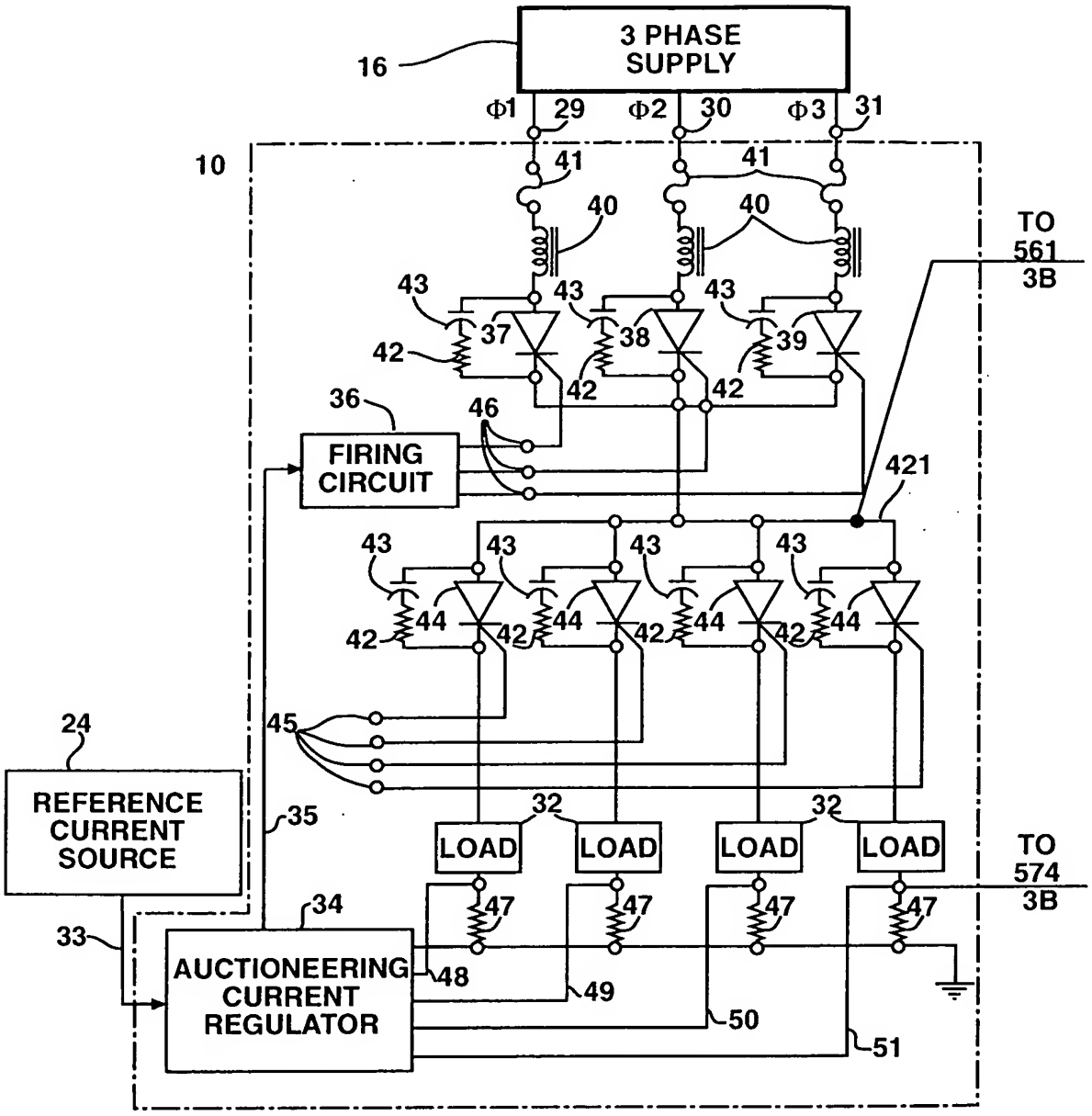
3 PHASE SUPPLY
16
Φ1
29
Φ2
30
Φ3
31
10
41
40
43
37
38
39
42
36
46
FIRING CIRCUIT
TO 561 3B
421
44
45
24
REFERENCE CURRENT SOURCE
35
32
LOAD
47
TO 574 3B
34
33
AUCTIONEERING CURRENT REGULATOR
48
49
50
51

FIG. 3A

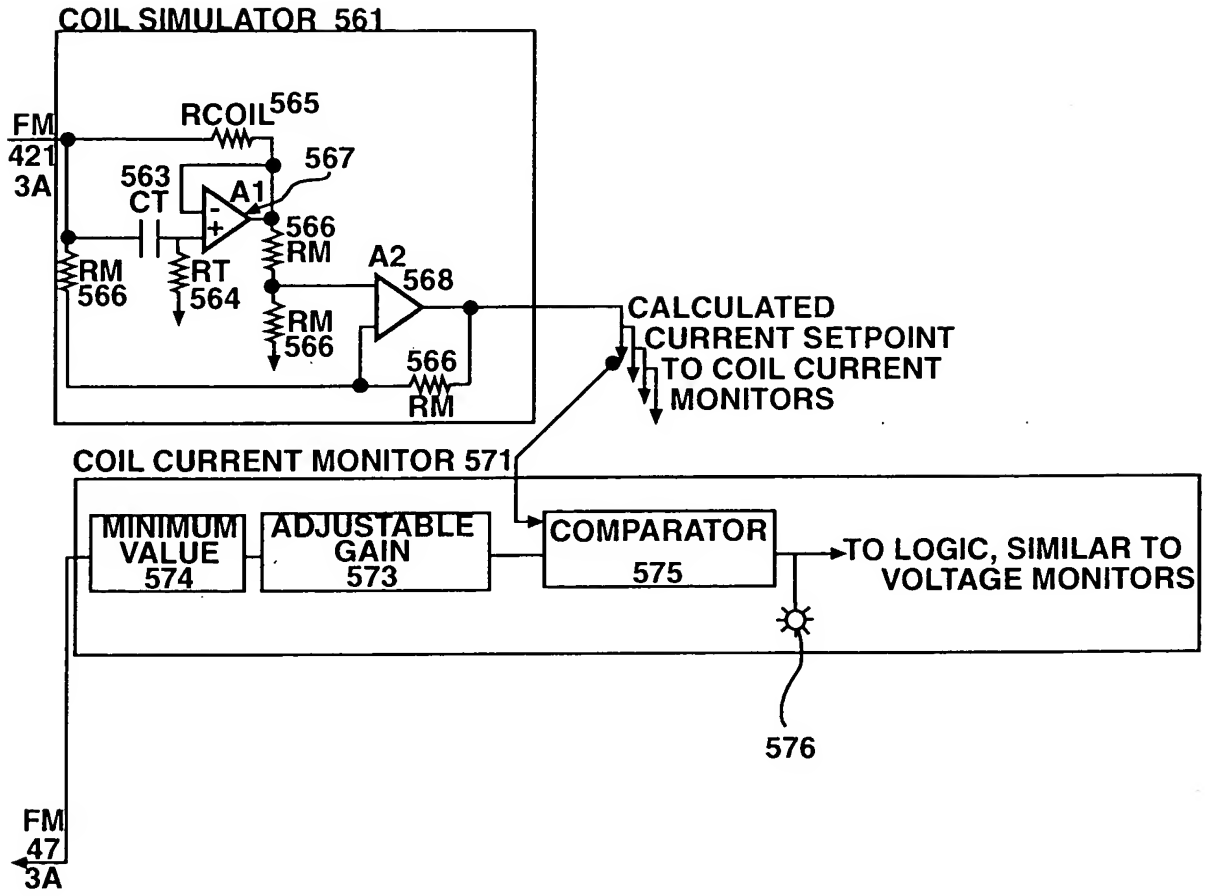
COIL SIMULATOR 561
FM
421
3A
RCOIL 565
567
563
CT
A1
566
RM
A2
568
RM
566
RT
564
RM
566
566
RM
CALCULATED
CURRENT SETPOINT
TO COIL CURRENT
MONITORS
COIL CURRENT MONITOR 571
MINIMUM
VALUE
574
ADJUSTABLE
GAIN
573
COMPARATOR
575
TO LOGIC, SIMILAR TO
VOLTAGE MONITORS
576
FM
47
3A

FIG. 3B

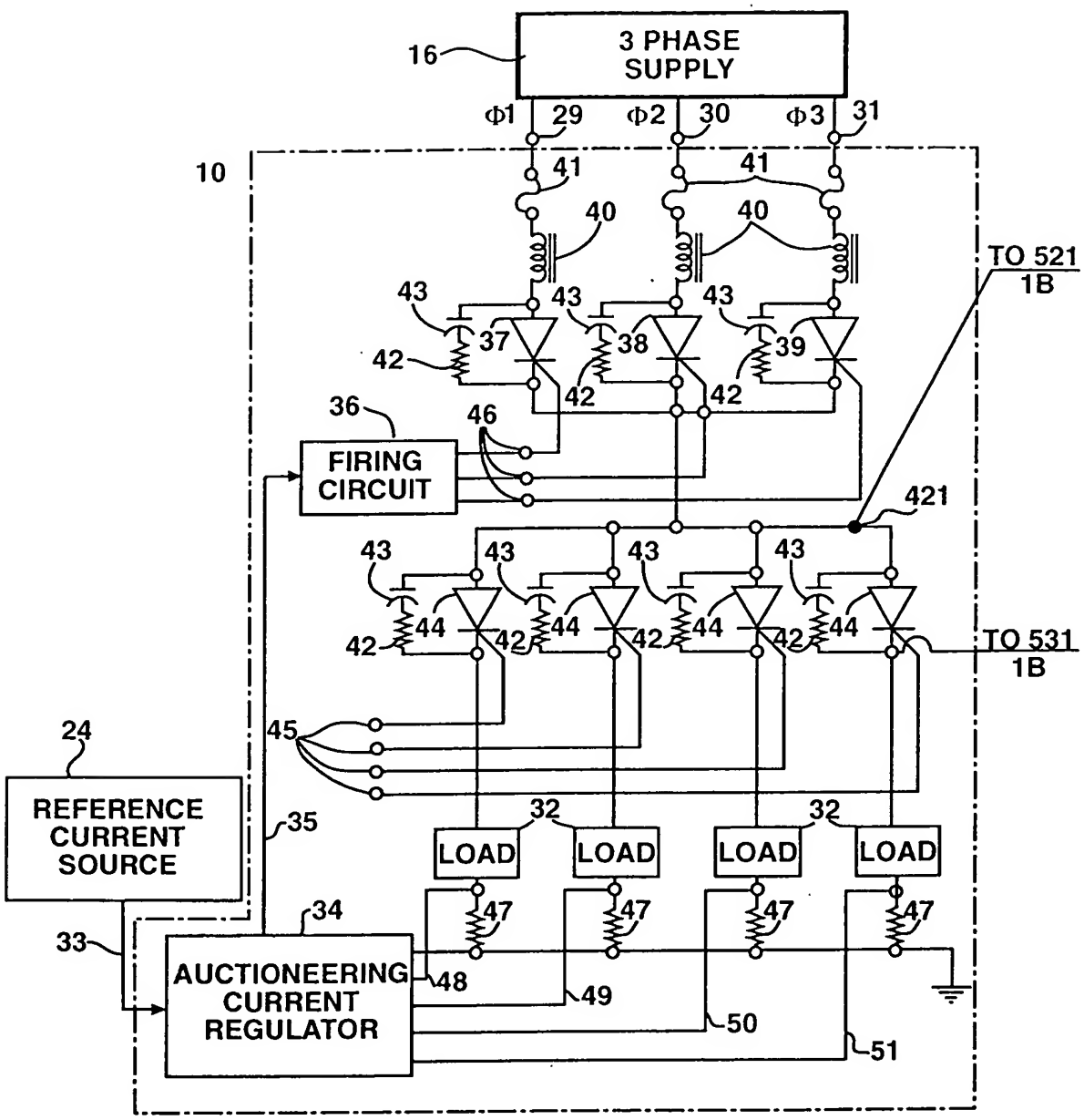
16
3 PHASE SUPPLY
Φ1
29
Φ2
30
Φ3
31
10
41
40
43
37
38
39
42
36
46
FIRING CIRCUIT
TO 521 1B
421
44
TO 531 1B
24
45
REFERENCE CURRENT SOURCE
35
32
LOAD
47
34
33
AUCTIONEERING CURRENT REGULATOR
48
49
50
51

FIG. 1A

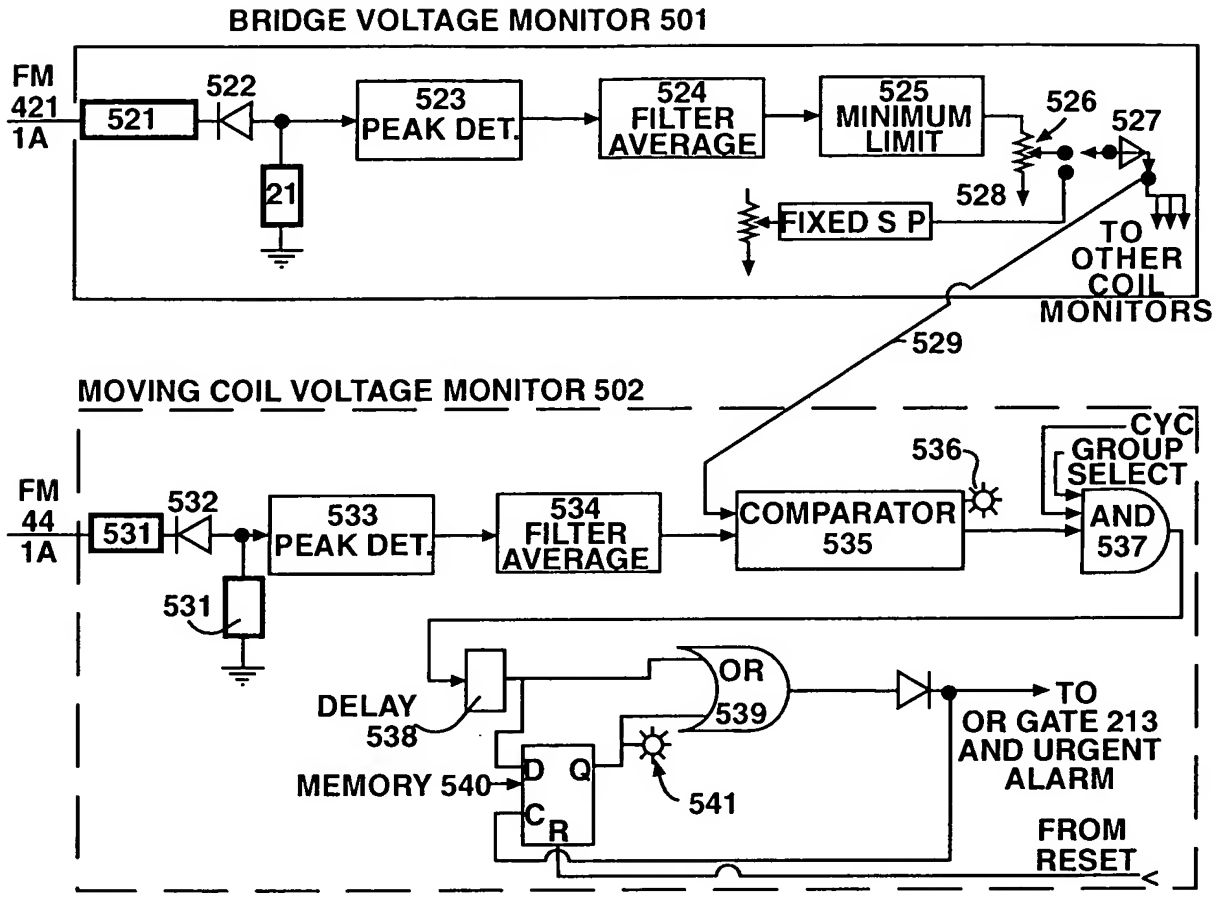
BRIDGE VOLTAGE MONITOR 501
FM
421
1A
521
522
21
523
PEAK DET.
524
FILTER
AVERAGE
525
MINIMUM
LIMIT
526
527
528
FIXED S P
TO
OTHER
COIL
MONITORS
529
MOVING COIL VOLTAGE MONITOR 502
FM
44
1A
531
532
531
533
PEAK DET.
534
FILTER
AVERAGE
COMPARATOR
535
536
CYC
GROUP
SELECT
AND
537
DELAY
538
MEMORY 540
D
Q
C
R
OR
539
541
TO
OR GATE 213
AND URGENT
ALARM
FROM
RESET

FIG. 1B

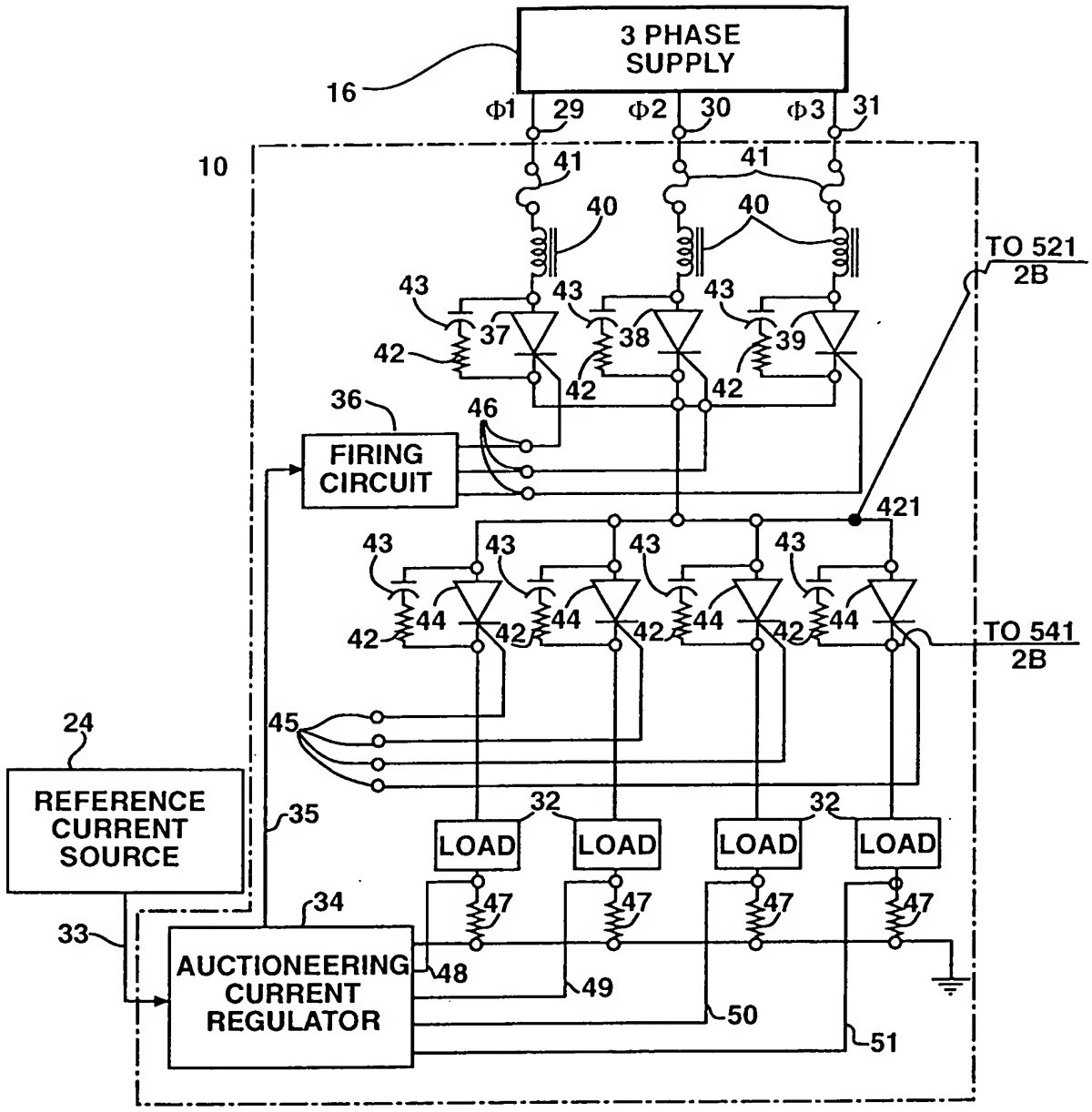
3 PHASE SUPPLY
16
Φ1
29
Φ2
30
Φ3
31
10
41
40
TO 521 2B
43
37
38
39
42
36
46
FIRING CIRCUIT
421
44
TO 541 2B
24
45
REFERENCE CURRENT SOURCE
35
32
LOAD
47
34
33
AUCTIONEERING CURRENT REGULATOR
48
49
50
51

FIG. 2A

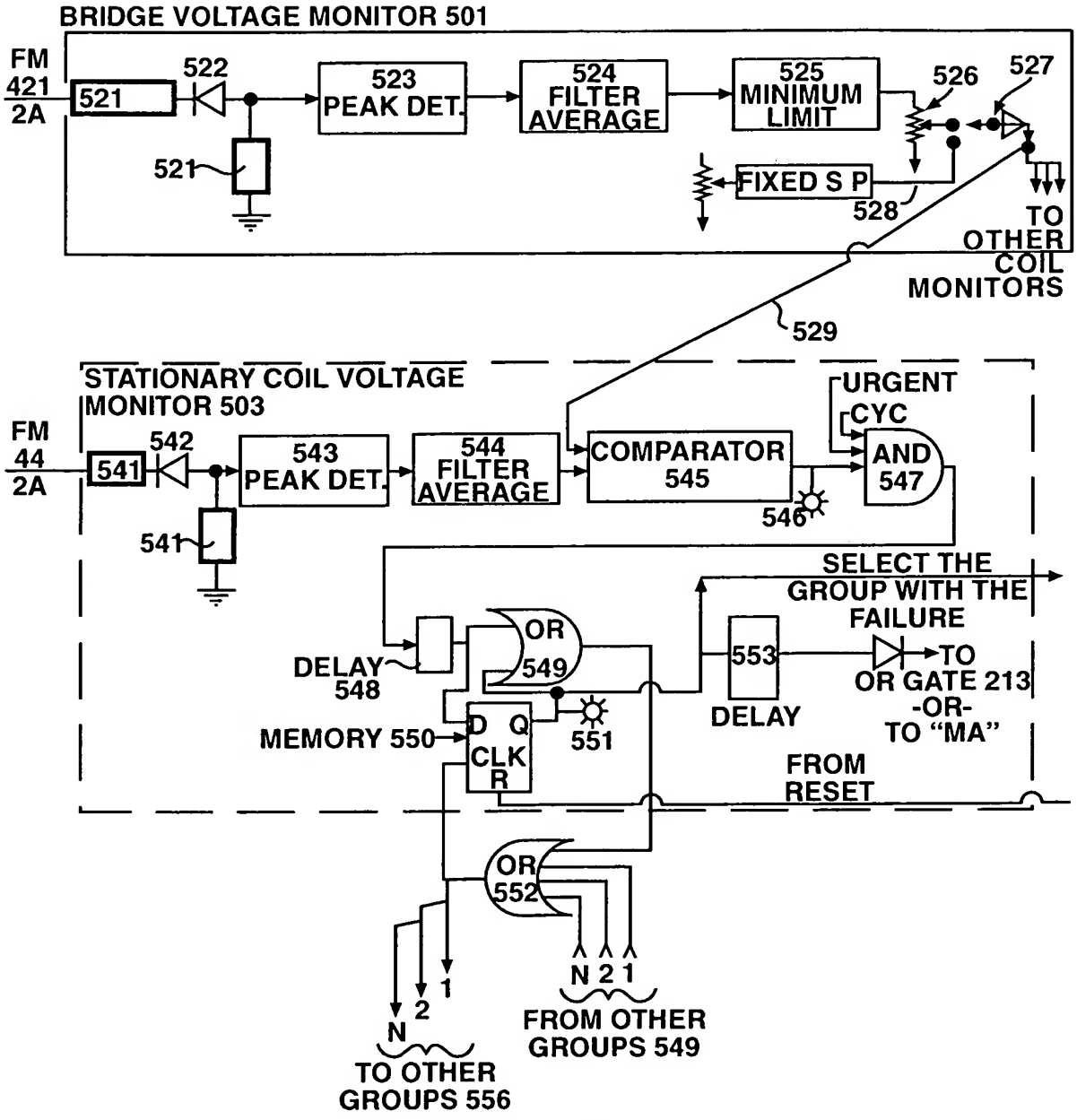
BRIDGE VOLTAGE MONITOR 501
FM
421
2A
521
522
521
523
PEAK DET.
524
FILTER
AVERAGE
525
MINIMUM
LIMIT
526
527
FIXED S P
528
TO
OTHER
COIL
MONITORS
529
STATIONARY COIL VOLTAGE
MONITOR 503
FM
44
2A
541
542
541
543
PEAK DET.
544
FILTER
AVERAGE
COMPARATOR
545
546
URGENT
CYC
AND
547
SELECT THE
GROUP WITH THE
FAILURE
DELAY
548
OR
549
MEMORY 550
D Q
CLK
R
551
553
DELAY
TO
OR GATE 213
-OR-
TO "MA"
FROM
RESET
OR
552
N 2 1
FROM OTHER
GROUPS 549
1
2
N
TO OTHER
GROUPS 556

FIG. 2B

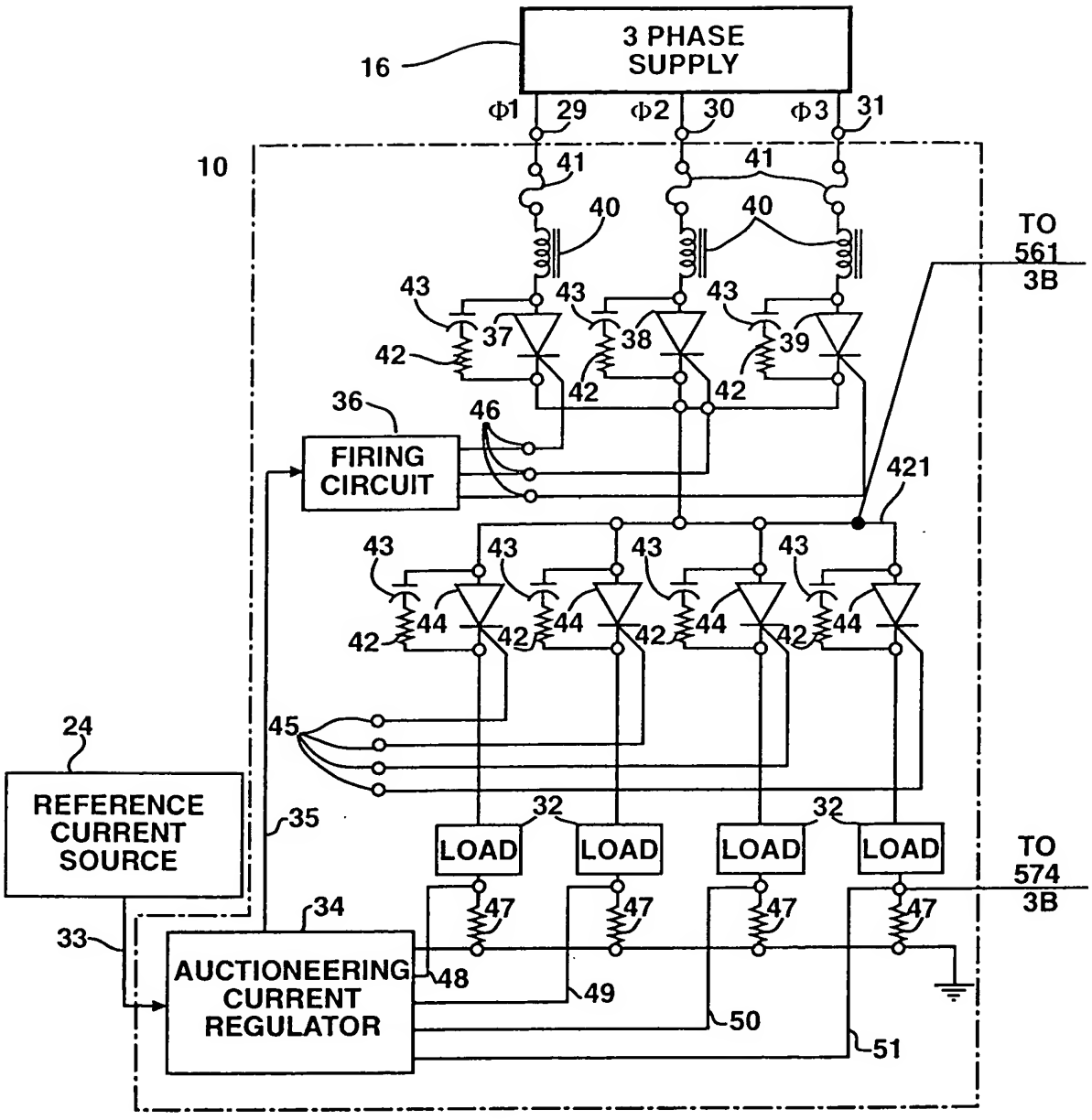
3 PHASE SUPPLY
16
Φ1
29
Φ2
30
Φ3
31
10
41
40
TO 561 3B
43
37
38
39
42
36
46
FIRING CIRCUIT
421
44
45
24
REFERENCE CURRENT SOURCE
35
32
LOAD
47
TO 574 3B
34
33
AUCTIONEERING CURRENT REGULATOR
48
49
50
51

FIG. 3A

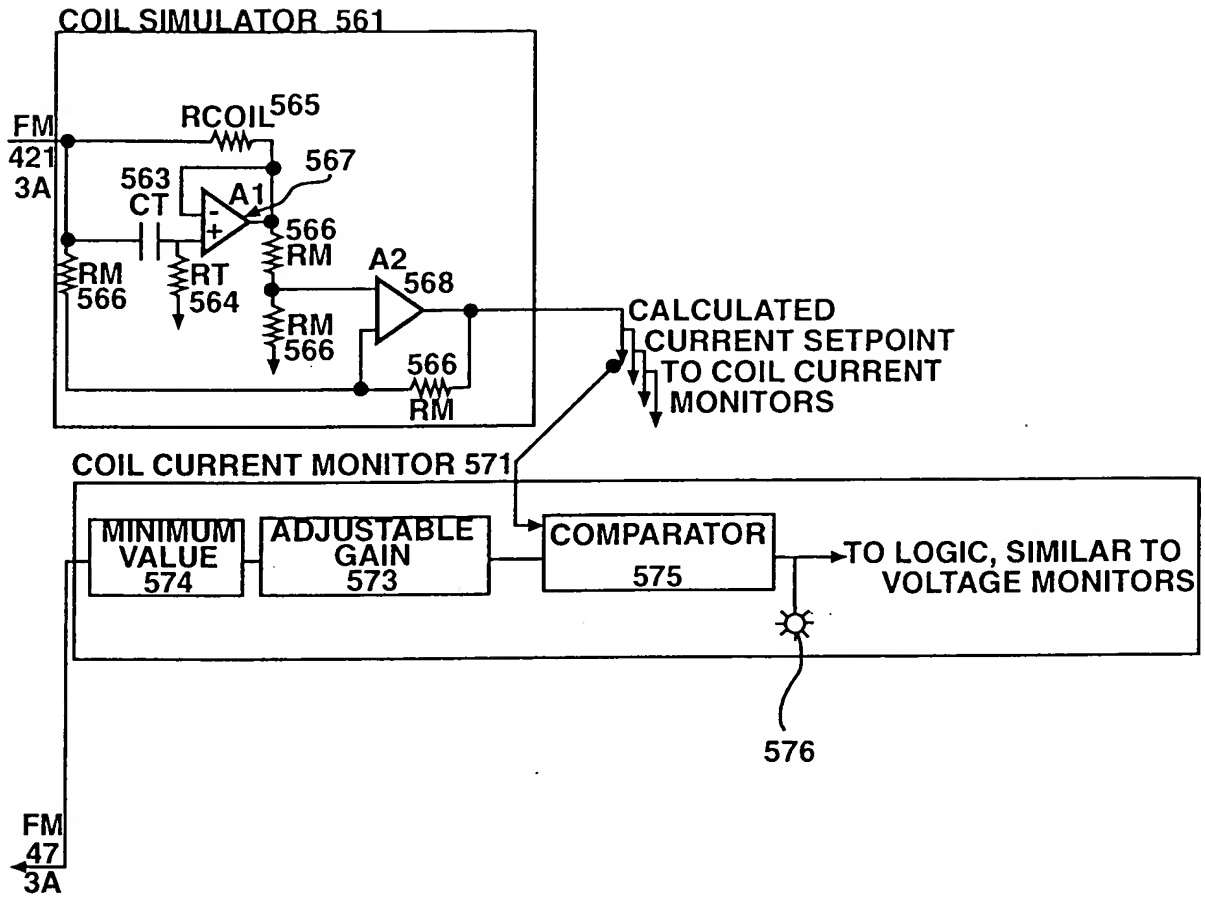
COIL SIMULATOR 561
FM
421
3A
RCOIL
565
567
563
CT
A1
566
RM
A2
568
RM
566
RT
564
RM
566
566
RM
CALCULATED
CURRENT SETPOINT
TO COIL CURRENT
MONITORS
COIL CURRENT MONITOR 571
MINIMUM
VALUE
574
ADJUSTABLE
GAIN
573
COMPARATOR
575
TO LOGIC, SIMILAR TO
VOLTAGE MONITORS
576
FM
47
3A

FIG. 3B

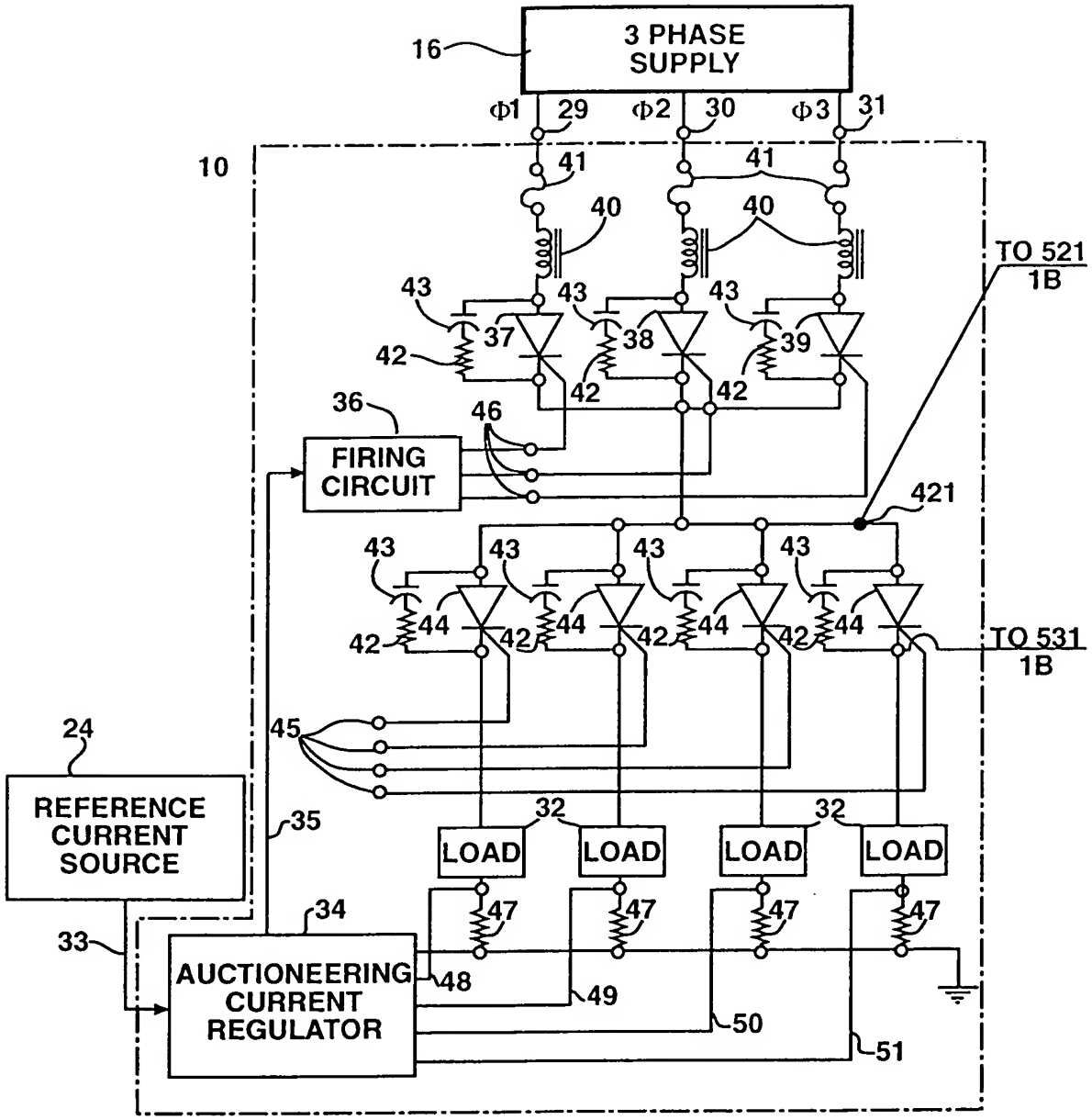
16
3 PHASE SUPPLY
Φ1
29
Φ2
30
Φ3
31
10
41
40
43
37
38
39
42
36
46
FIRING CIRCUIT
TO 521 1B
421
44
TO 531 1B
24
45
REFERENCE CURRENT SOURCE
35
32
LOAD
47
34
33
AUCTIONEERING CURRENT REGULATOR
48
49
50
51

FIG. 1A

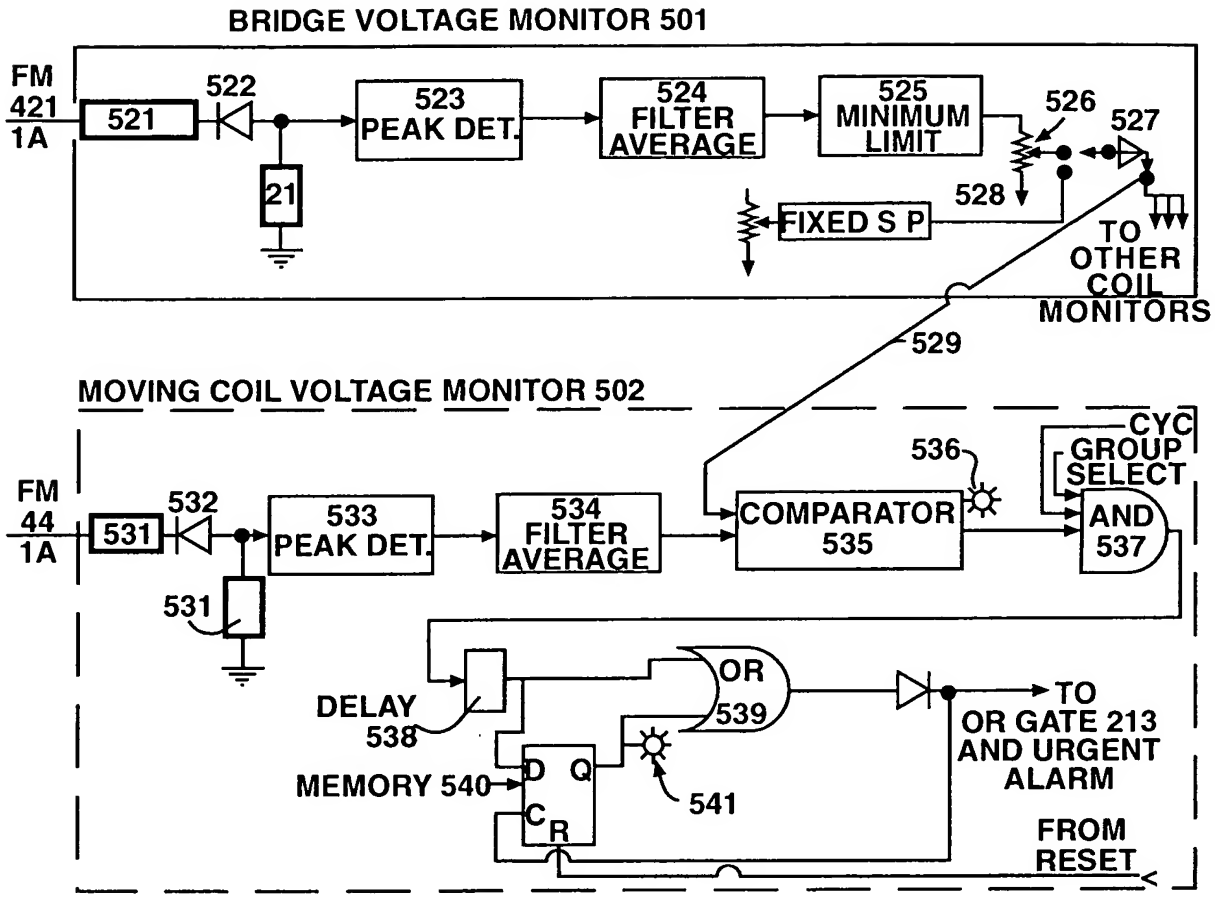
BRIDGE VOLTAGE MONITOR 501
FM
421
1A
521
522
21
523
PEAK DET.
524
FILTER
AVERAGE
525
MINIMUM
LIMIT
526
527
528
FIXED S P
TO
OTHER
COIL
MONITORS
529
MOVING COIL VOLTAGE MONITOR 502
FM
44
1A
531
532
531
533
PEAK DET.
534
FILTER
AVERAGE
COMPARATOR
535
536
CYC
GROUP
SELECT
AND
537
DELAY
538
MEMORY 540
D
Q
C
R
OR
539
541
TO
OR GATE 213
AND URGENT
ALARM
FROM
RESET

FIG. 1B

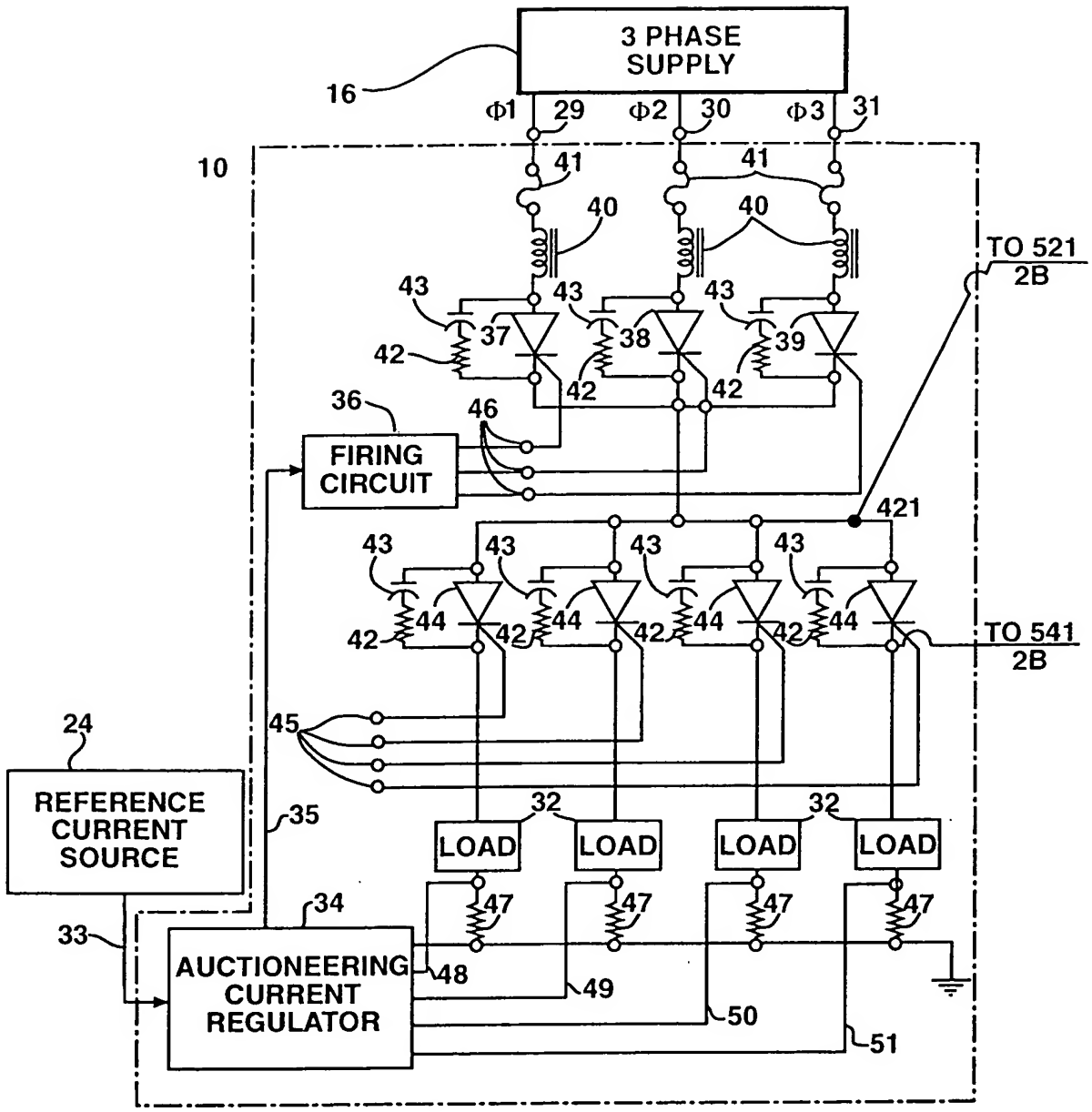
3 PHASE SUPPLY
16
Φ1
29
Φ2
30
Φ3
31
10
41
40
43
37
38
39
42
36
46
FIRING CIRCUIT
TO 521 2B
421
44
TO 541 2B
24
45
REFERENCE CURRENT SOURCE
35
32
LOAD
47
34
33
AUCTIONEERING CURRENT REGULATOR
48
49
50
51

FIG. 2A

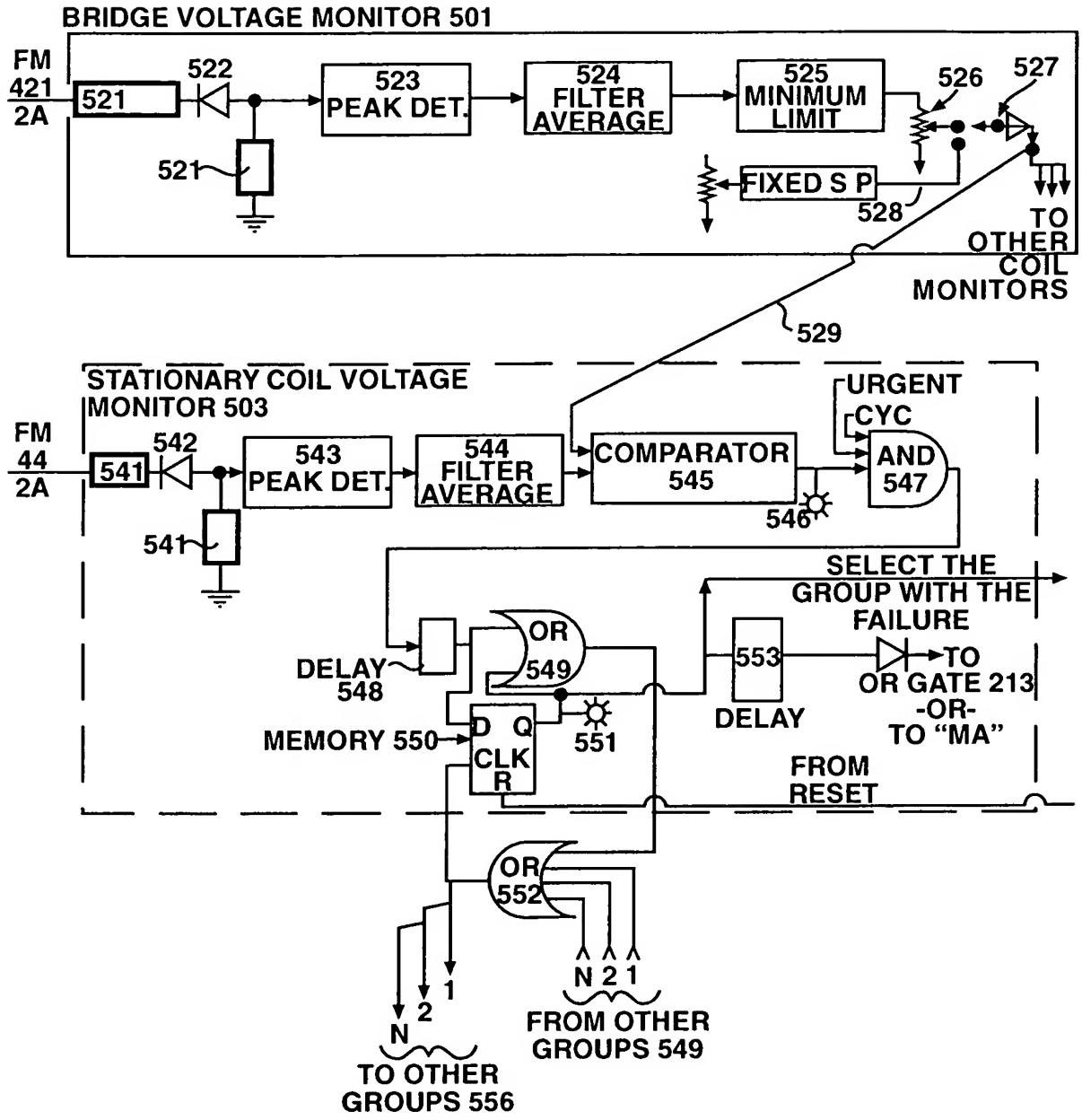
BRIDGE VOLTAGE MONITOR 501
FM
421
2A
521
522
523
PEAK DET.
524
FILTER
AVERAGE
525
MINIMUM
LIMIT
526
527
521
FIXED S P
528
TO
OTHER
COIL
MONITORS
529
STATIONARY COIL VOLTAGE
MONITOR 503
FM
44
2A
541
542
543
PEAK DET.
544
FILTER
AVERAGE
COMPARATOR
545
URGENT
CYC
AND
547
546
541
SELECT THE
GROUP WITH THE
FAILURE
OR
549
DELAY
548
553
TO
OR GATE 213
-OR-
TO "MA"
DELAY
MEMORY 550
D Q
CLK
R
551
FROM
RESET
OR
552
N 2 1
FROM OTHER
GROUPS 549
1
2
N
TO OTHER
GROUPS 556

FIG. 2B

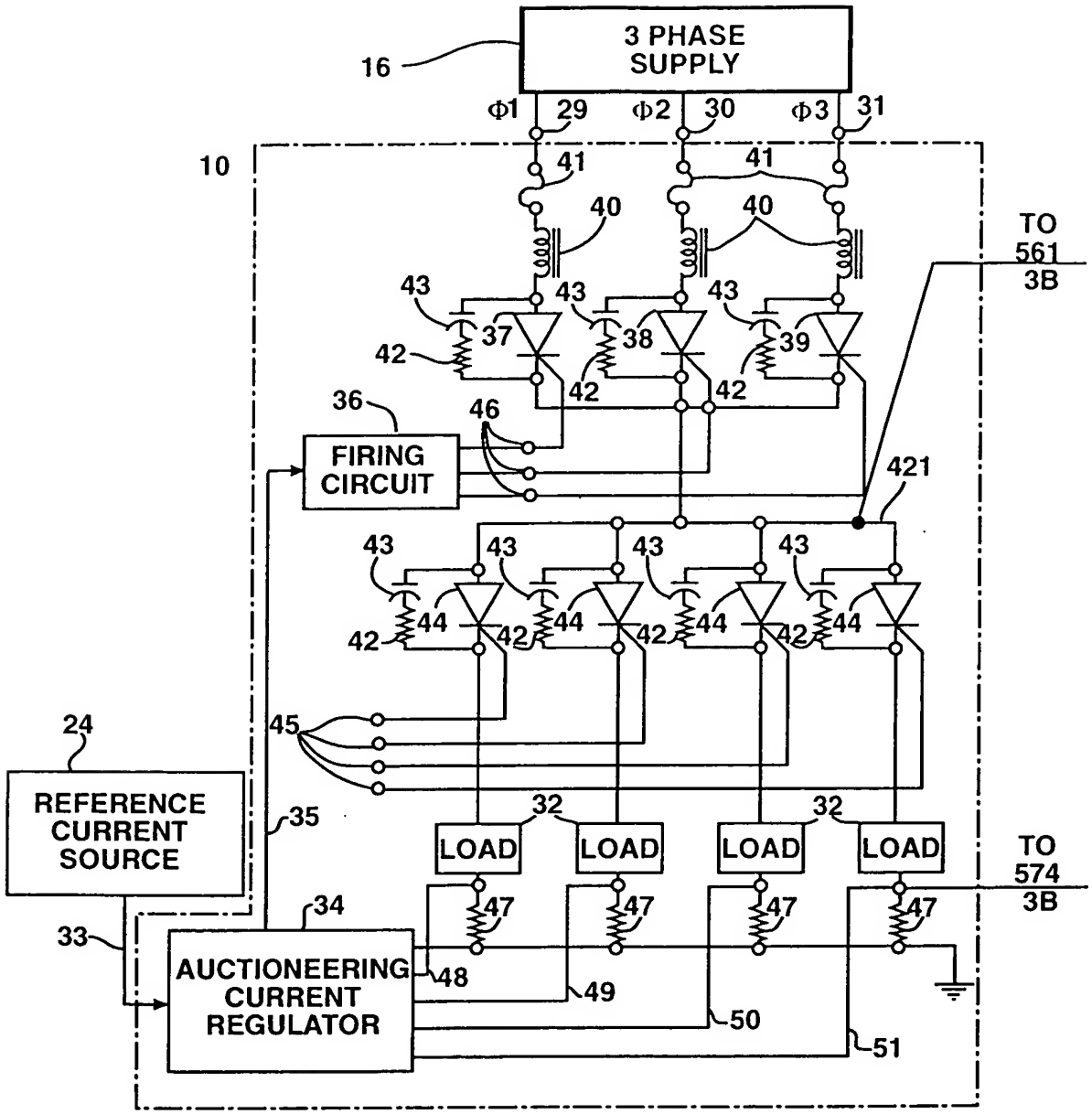
3 PHASE SUPPLY
16
Φ1
29
Φ2
30
Φ3
31
10
41
40
TO 561 3B
43
37
38
39
42
36
46
FIRING CIRCUIT
421
44
45
24
REFERENCE CURRENT SOURCE
35
32
LOAD
47
TO 574 3B
34
33
AUCTIONEERING CURRENT REGULATOR
48
49
50
51

FIG. 3A

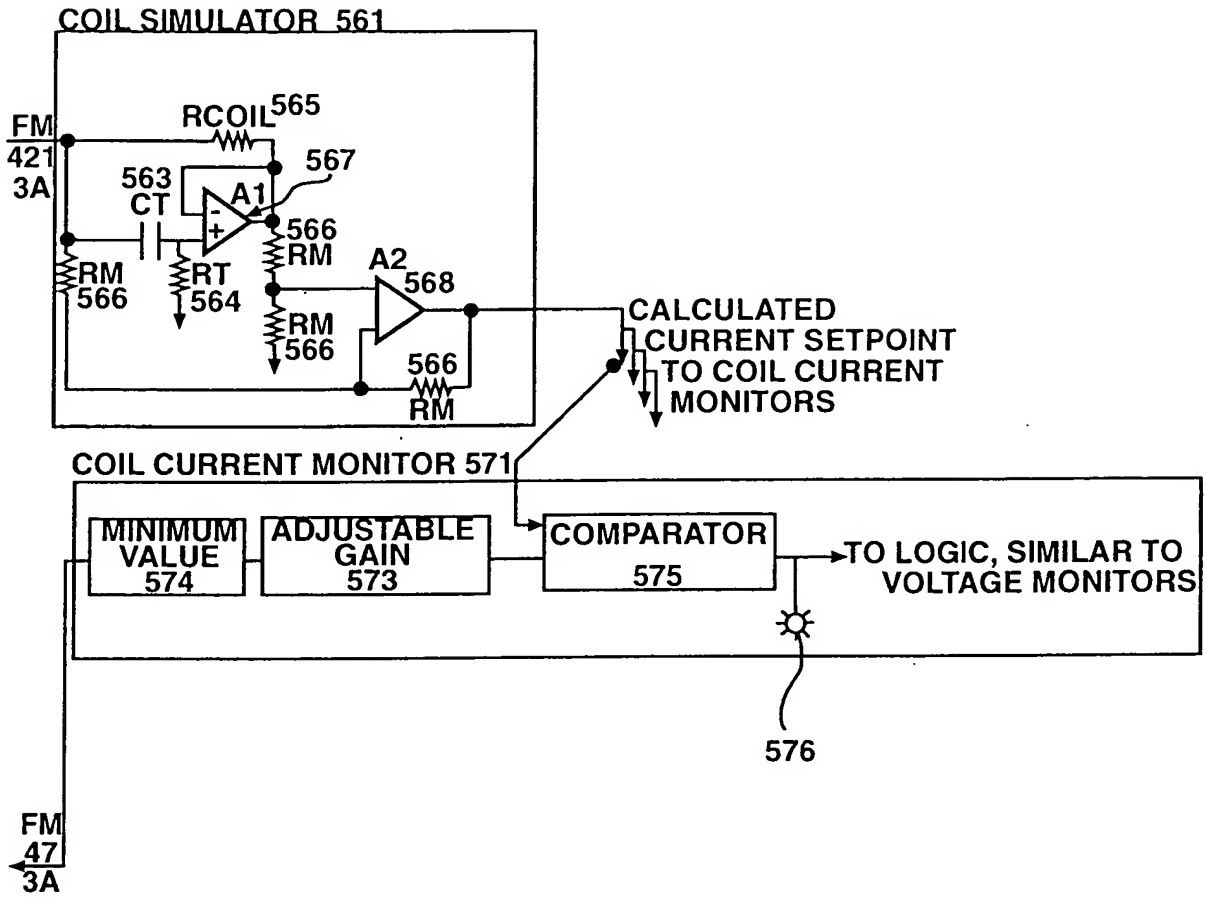
COIL SIMULATOR 561
FM
421
3A
RCOIL
565
567
563
CT
A1
566
RM
RM
566
RT
564
A2
568
RM
566
566
RM
CALCULATED
CURRENT SETPOINT
TO COIL CURRENT
MONITORS
COIL CURRENT MONITOR 571
MINIMUM
VALUE
574
ADJUSTABLE
GAIN
573
COMPARATOR
575
TO LOGIC, SIMILAR TO
VOLTAGE MONITORS
576
FM
47
3A

FIG. 3B